of regeneration conclusively establishes the diagnosis.

Various forms of treatment such as ionizing radiation, amputation or local resection, embolization, use of diphosphonates, calcitonin and mithramycin have been tried, but none found to be definitely successful(7).

**Acknowledgement**

The authors thank the Dean of Bai Jerbai Wadia Hospital for Children for his permission to publish this case.

**REFERENCES**

1. Gorham LW, Wright AW. Schattz HH, Maxonf C. Disappearing bones, a rare form of massive osteolysis. Am J Med 1954, 17: 674-682.
2. Cannon SR. Massive osteolysis: A review of seven cases. J Bone Joint Surg 1986, 68 B: 24-28.
3. Gorham LW, Stout AP. Massive osteolysis (acute spontaneous absorption of bone, phantom bone disappearing bone): Its relation to hemangiomatosis. J Bone Joint Surg 1955, 37 A: 985-1004.
4. Tachdjian MO, Pediatric Orthopedics, Vol 2, 2nd edn. Philadelphia, W.B. Saunders Co, 1990, pp 790-792.
5. Torg JSS, DiGeorge AM, Kirkpatrick JA, *et al*. Hereditary multicentric osteolysis with recessive transmission: A new syn drome. J Pediatr 1969, 75: 243-252.
6. Tauro B. Multicentric Gorham's disease. J Bone Joint Surg (Br) 1992, 74(6): 928-929.
7. Hardeggar F, Simpson LA, Segmeller G. The syndrome.of idiopathic osteolysis. J Bone Joint Surg 1985, 67-B: 89-93.

---

# Profile of Childhood Disability

**Nonica Laisram**

Atleast 1 in every 10 children is born with or acquires a physical, mental or sensory impairment(l). The lay public is generally uninformed as to the cause, prevention and treatment of childhood disability. They are often filled with misinformation, superstition and fear about the condition(2). With the present technology, atleast 50% of all disabilities may be prevented or postponed(3). The present study was carried out to identify the types and various causes of childhood disability.

## Material and Methods

Four hundred and seventy four children of both sexes in the age group 0-14 years, attending the Department of Physical

*From the Department of Physical Medicine and Rehabilitation, Safdarjang Hospital, New Delhi.*

*Reprint requests: Dr. Nonica Laisram, Assistant Director, Department of Physical Medicine and Rehabilitation, Safdarjang Hospital, New Delhi 110 029.*

*Received for publication: January 13, 1994; Accepted: May 30, 1994*

Medicine and Rehabilitation of Safdarjang Hospital, New Delhi between January 1992 to July 1993 were studied to identify the various types and causes of disability. Disability was defined as an existing difficulty in performing one o/ more activities which in accordance with the subjects age, sex and normative social role, are generally accepted as essential, basic components of daily living, such as self care, social relations and economic activity(4). The types of disability were grouped as locomotor, speech, mental, visual or auditory. The etiology leading to the disability was identified in all the cases after a detailed history, thorough clinical examination and relevant investigations where required.

## Results

Of 474 patients, 309 (65.2%) were boys and 165 (34.8%) girls. The maximum number of patients were above the age of 5 years, *i.e.,* 206 of 474 (48.4%) *(Table I).* The various types of disability were locomotor in 435 (91.8%) patients, mental retardation alone in 34 (7.2%) and speech disability in 5 (1.1%) patients. Of the children with locomotor disability, there were 28 cases who had in addition either speech, visual, hearing or mental disability. There were no cases having isolated visual or hearing disability. The chief causes *(Table II)* of locomotor disability included poliomyelitis in 32.4%, cerebral palsy in 22.3%, post-traumatic sequelae of extremities in 11.3%, Congenital talipes equinovarus in 8.0%, meningomyelocele in 4.8% and pes planus in 4.6% patients. Other causes included amputation (due to trauma or congenital), hyphoscoliosis resulting from Pott's spine or idiopathic, sternomastoid tumor, rickets, Bell's palsy, leprosy, congenital dislocation of hip, congenital pseudoarthrosis of tibia, Guillian-Barre syndrome, Erb's palsy, hydrocephalus, muscular dystrophy, radial nerve palsy, post-septic ankylosis of both hips, post-bums contracture, spina-bifida, rheumatoid arthritis, Down's syndrome, seizure disorder,

*Disability*

| Age (years) | No. % (n = 474) |
|---|---|
| 0-1 | 69 (14.6) |
| 1-2 | 85 (17.9) |
| 2-3 | 60 (12.7) |
| 3-4 | 32 (6.8) |
| 4-5 | 22 (4.6) |
| > 5 | 206 (43.4) |

**TABLE II**–*Causes of Locomotor Disability*

| Etiology (n = 435) | No. | % |
|---|---|---|
| Poliomyelitis | 141 | 32.4 |
| Cerebral palsy | 99 | 22.8 |
| Trauma | 49 | 11.3 |
| Congenital talipes equinovarus | 35 | 8.0 |
| Meningomyelocele | 21 | 4.8 |
| Flat foot | 20 | 4.6 |
| Amputation (traumatic/ congenital) | 9 | 2.1 |
| Kyphoscoliosis (idiopathic/Pott's) | 9 | 2.1 |
| Sternomastoid tumor | 5 | 1.2 |
| Rickets | 5 | 1.2 |
| Rheumatoid arthritis | 4 | 0.9 |
| Bells palsy | 4 | 0.9 |
| Others | 34 | 7.8 |

Pott's spine with paraperesis, multiple congenital anomalies, arthrogyposis multiplex congenita and behavioral disorder. All 5 cases with speech disability had stammering. Of 34 patients with only mental retardation, 13 patients had microcephaly, 12 patients had history of birth asphyxia while in 9 patients, the cause was not known.

**Discussion**

Of 474 children with disability, it was observed that locomotor disability comprised the maximum number of cases. This can be explained as the Department of Physical Medicine and Rehabilitation caters primarily to the care of the locomotor handicapped, though some cases of mental retardation or mixed handicap having another disability in addition to the locomotor disability also come for comprehensive rehabilitation care.

Majority of the children were males, with male to female ratio of 1.9 : 1. The male preponderance observed in this study may be a reflection of the traditional Indian family taking greater interest in the male sib including his medical treatment. The largest number of cases were in the age group above 5 years. This may be attributed to lack of awareness as also the limited availability of rehabilitation services. Of the various causes of locomotor disability, poliomyelitis was the commonest followed by cerebral palsy. Trauma leading to stiffness or deformities and post-traumatic amputation were also important causes. Rickets due to Vitamin D deficiency, with difficulty in walking was present in 5 patients.

Analysis of the various causes of disability (with the exclusion of cerebral palsy) showed that 217 cases (45.8%) were due to preventable causes. When cerebral palsy was included, more than 50% of cases were preventable, considering the observations in a previous study(5) which showed that majority of the etiological factors causing cerebral palsy are preventable. Our results are in accordance with those from UNICEF study which also (reported that at least 50% causes of disability are preventable(3).

The present study highlights that majority of the cases with childhood disability are due to preventable causes. Awareness on the part of the family and community regarding the importance of immunization, increased availability and utilization of maternal and child health services, nutritional advice, and prevention of trauma, are prime factors which will help in reducing the incidence of the disability.

**REFERENCES**

1. UNICEF Childhood disability: Its prevention and rehabilitation. *In:* Report of Rehabilitation International to the Executive Board of UNICEF. UNICEF, New York, B/ICEF/L1410 26, March 1980, p31.
2. UNICEF. *In:* Assisgnment Children. The disabled child. A new approach to prevention and rehabilitation. Ed Mandle PE. UNICEF 1981, 53/54, p 44.
3. UNICEF. *In:* Assignment Children. The disabled child. A new approach to prevention and rehabilitation. Ed Mandle PE. UNICEF 1981, 53/54, p 39.
4. Manual for doctors to evaluate permanent physical impairment. Based on Expert Group Meeting on Disability Evaluation and National Seminar on Disability Evaluation and Dissemination. DGHS-WHO-AIIMS, New Delhi. Eds Yadav BP, Varma SK, 1981, pp 2-3.
5. Laisram N, Srivastava VK, Srivastava RK. Cerebral Palsy—An etiological study. Indian J Pediatr 1992, 59: 123-128.